



BY DAN FOLEY • PHOTOS BY THE AUTHOR

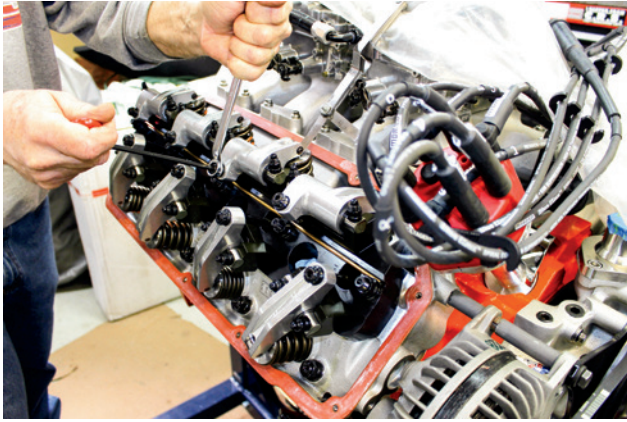
# ROOM FOR THE ELEPHANT

STUFFING A GEN II HEMI INTO A CLASSIC A-, B-, OR E-BODY IS SIMPLIFIED WITH TTI EXHAUST HEADERS AND SCHUMACHER CREATIVE SERVICES ENGINE MOUNTS.

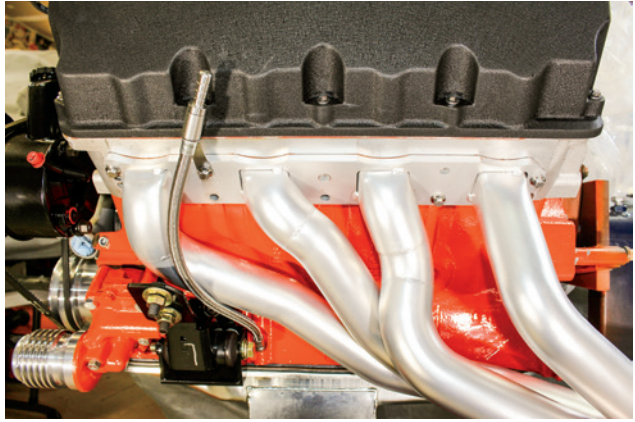
**Packing** a second-generation Hemi into your classic Mopar is a longtime dream for most Pentastar enthusiasts. But just getting the engine and car isn't an end in itself. Getting it under the hood and tearing up the tarmac is the ultimate goal.

The '60s/'70s wedge and Hemi share the same bolt patterns at the front, rear, and bottom of the block. This makes a wedge-to-Hemi swap simple. You can bolt up the same bellhousing or 727 transmission. On the front of both engines, the water pump housing and accessories are another easy swap-over.

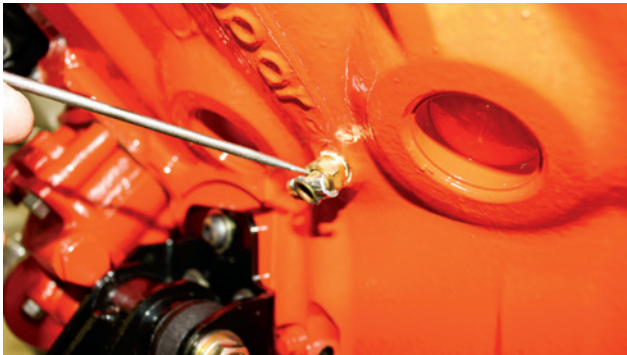
The oil pan and oil pump also interchange, but that's where it stops. It's the top end of the Elephant engine where interchangeability ends. Those wider, impressive, better-breathing Hemi heads have different intake and exhaust manifolds, and the engine mounts bolt up totally different.



We decided it would be easier to check and set the valve lash on our Street Hemi before dropping it into the tight-fit engine bay. Hemi valve covers — especially our taller and wider Ray Barton units, are easier to remove and reinstall while on the engine stand. Check out the Ray Barton rocker system. It has valvetrain stability up to 10,000 rpm.



Fitment with the Milodon dipstick worked best when mounted and routed as seen here. Routing/mounting it any differently made pulling and putting in the dipstick very difficult, if not impossible.



With our Hemi on the engine stand, it's also much easier to check clearance between the headers to starter, dipstick, engine mounts and block. We discovered trying to bolt on the left-side headers that the radiator petcock was interfering with header fitment. A stock coolant plug was put back into the block for our first clearance correction.



We found the reproduction Street Hemi dipstick fits nicely. It only required minor bending to provide good clearance away from the ceramic-coated TTI 2 1/4-inch headers (PN HEMI625-214C4, TTI, \$977) and Schumacher Creative Services conversion Hemi engine mounts (PN B625H, Schumacher, \$259).

TTI Exhaust suggests using the Milodon stainless braided dipstick (left) (PN MIL-22070, Summit, \$62.95) with its headers. Mancini Racing offers this new reproduction Street Hemi dipstick (PN MREMS225G, Mancini, \$65.95). We decided to also try fitment using the reproduction dipstick with the TTI headers.



The newer Mopar Gen II Hemi blocks are beefier than the original factory castings. To line up the starter bolt-holes, we'd need to clearance grind the block or starter. TTI Exhaust recommends use of this clock-able Powermaster XS Torque starter (PN PWM-9523, Summit, \$308.99) for fitment with their headers.

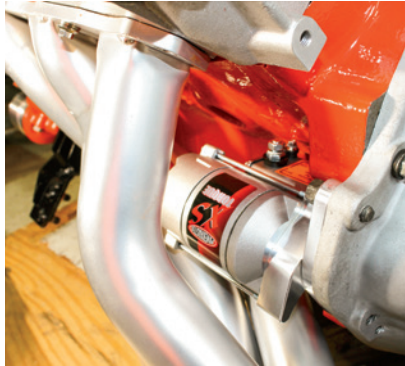
Here's where the good folks from TTI Exhaust and Schumacher Creative Services come to the rescue. They address these differences and help make your Hemi dream a reality. Unlike before, there's no need to search and purchase an expensive Hemi K-member and engine mounts.

Though swaps to the Gen III Hemi engines are gaining popularity, we're happy to go the old-school route for simplicity's sake. Let's not forget all the technology that in recent years has gone into the Gen II Hemi. Whoever thought 10-plus years ago you could have a pump-gas, naturally aspirated Street Hemi

with over 800 hp. To make our 383 wedge to 528 Street Hemi swap a walk in the park, we'll be using Schumacher's Hemi engine conversion mounts and TTI's 2 1/4-inch headers.

Here you'll see the minor fitting adjustments we needed to make and a few tips to help make a Hemi conversion an easy

task. Most folks performing this Hemi swap into an early B-body (like us) will not have to modify the shock tower if utilizing stock Hemi valve covers. We had no choice but to beat in our right-side shock tower roughly a half-inch for clearance with the taller and wider Ray Barton valve covers. Sure, we could've installed an A-990 shock tower, but that's major surgery most of us can't perform. Folks with the '66-and-later B-Bodies or a '70-'74 E-Body won't find this modification necessary. Follow along to see how simple a Hemi engine conversion can be. There's still more to do to get our Hemi running and driving, but we are close — very close. 🛠️



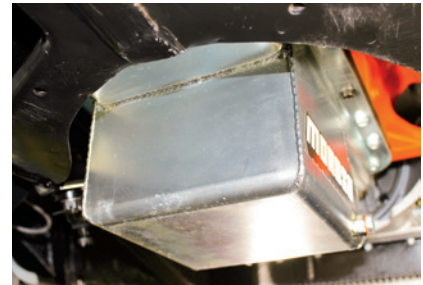
Here's where the taller and wider Ray Barton Racing Engines valve covers were hitting the shock tower. If we used stock valve covers there wouldn't be any clearance issues, but we must use these fat valve covers to clear the Ray Barton rocker arm system. The Barton rocker setup gives you superior valve-train geometry for more power and rpm.



Wanting to keep flying metal chips away from our expensive Hemi, so outside our garage with a die grinder, we shaved an 1/8-inch from the starter's mounting block. No fear, the mounting block of this powerful starter is made of strong billet aluminum versus the cast aluminum of cheaper units.



We're glad we straightened out the aforementioned clearance issues before implanting the Hemi into the engine bay. It would've been much more difficult and time consuming to work out the fitment of the headers to starter, block, engine mount, and dipstick inside the engine compartment.



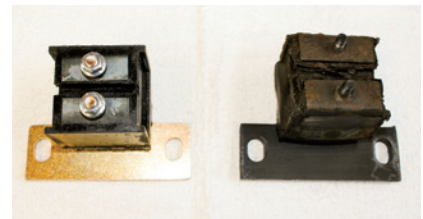
Most of the aftermarket and stock Hemi/wedge oil pans are designed for fitment with the '66 and later B- and E-Body. Using the aforementioned oil pans require the early B-Body K-member to be notched. Not so with this deep 7-quart Moroso oil pan (PN MOR-20760, Summit, \$199.99). This stronger-than-stock oil pan provides plenty of K-member clearance in an early '62-'65 B-Body with a wedge or Hemi engine installation.



Now, with the starter being able to be bolted up in position, the headers were hitting the starter where the pen is pointing. To remedy this clearance issue, we only needed to clock the starter clockwise one position out of the four available on this clock-able starter.



The conversion engine mounts from Schumacher Creative Industries helped us ease the massive Elephant into this sitting-pretty position. The Coronet's original V-8 K-member was powder-coated in a previous story while using PST's Polygraphite front end kit and suspension components when we rebuilt the front end.



We'll employ this Schumacher polyurethane trans mount (left) (PN TMEB, Schumacher, \$99) to firmly hold and line up our A&A built 727 and Hemi engine in proper position. The Schumacher engine mounts are also tough polyurethane to prevent our drivetrain from shifting around. Using the stock rubber mount could've caused future clearance issues.

***... just getting the engine and car isn't an end in itself. Getting it under the hood and tearing up the tarmac is the ultimate goal.***



To be sure of proper engine position, we bolted up our A&A trans with the Schumacher mount and stock cross-member. Now we could be exactly sure of where the valve cover was hitting the shock tower. At this point all other clearance checks looked good and the car's original '65 cable-shift, slipyoke Torque-Flite was back in its original location.



The scratched paint reveals where the valve cover was rubbing up against the shock tower. We used black magic marker to mark the area we needed to beat back the shock tower about a half-inch for the larger Barton valve cover to clear. If our '65 was equipped with an A-990 shock tower, the taller and wider Barton valve cover would have plenty of clearance.



We tried an air hammer, but our trusty old 3-pound mini sledgehammer did the job. It took a few hundred blows of our hammer to reshape the 1/8-inch-thick metal and bend it back about a half-inch. Fact: The early B-Body shock tower bulges out further than the '66-and-later B- and E-Body shock tower, plus the engine sits a 1/2-inch further to the right.



The Hemi was bolted back in place. Then, the trans was installed with its mount and crossmember to properly position the engine and trans. Here's the clearance we settled for with our Hemi valve cover. It's nearly ¼ inch, which should be enough. If it hits while the engine is running and shaking, we'll put a rubber isolator in-between the gap.



Here's looking at the dimpling job done to the headers. Now there'll be no worries about them rattling. The black marker lines will be removed with a "magic eraser." We think headers look much better being dimpled using the hydraulic press procedure rather than beating them with a hammer.



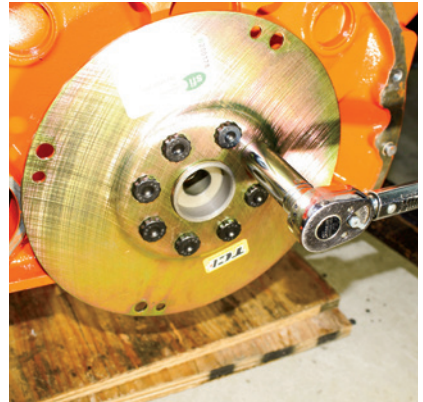
The headers easily bolted in without the torsion bars in place. Only the left side requires the engine to be raised an inch. Once installed, the L/S side header touched the Borgeson quick-ratio power steering box. The R/S header was rubbing the torsion bar. Shown here, we're dimpling the R/S header using a hydraulic press, piece of leather, 1-inch brass drift and a few blocks of wood while trying not to scratch the ceramic coating on the TTI headers.



After clearance messaging the shock tower back by over a half inch, that area was sanded smooth and coated with Eastwood gray epoxy primer (PN 14149Z, Eastwood, \$22.99) for good rust protection. Online we found a spray can of B1 Blue to spot-in our handiwork. It's a shade darker than the powder blue, but most folks won't notice.



Before installing a transmission, torque converter, and flexplate into a car, it's easier to line up the bolt pattern. Notice the white paint lines on the converter and flexplate. The 10-inch TCI Ultimate Street Fighter torque converter and the solid TCI eight-bolt Hemi flexplate will handle over 1,000 hp. Both were previously featured in our "Tough Torque Converter" story.



ARP crankshaft bolts (PN ARP-200-2905, Summit, \$33.95) were used to secure the TCI solid flexplate. The ARP fasteners received three steps of torque (40 to 60 to 85 ft-lb) in a crisscross torque sequence pattern.



To prevent a dry start for our new TCI torque converter, we poured in a quart of TCI's Max Shift synthetic ATF. We coated the converter's snout with ATF to prevent possible damage to the T-Flite's new front seal.

***It's the top end of the Elephant engine where interchangeability ends. Those wider, impressive, better-breathing Hemi heads have different intake and exhaust manifolds, and the engine mounts bolt up totally different.***



ARP header bolts (PN ARP-100-1110, Summit, \$20.99) were employed. These ultra high-quality bolts feature a 5/16-inch hex head making for easier access with a smaller wrench or socket. The supplied TTI header bolts (top right) have a larger 3/8-inch hex head. Notice the top left ARP header bolt has high-temp antiseize applied to its threads.



With the engine back in place, there was roughly 1/4-inch clearance after dimpling the header, plus we shaved a 1/16-inch off the new Borgeson power steering box. The Borgeson power steering box was touched up with Eastwood Rust Encapsulator, where it was shaved.



To make life easier, and this is for all classic Mopar V-8s with headers, put the starter in its place resting on the header tubes (as seen) before bolting the transmission or bellhousing to the block.



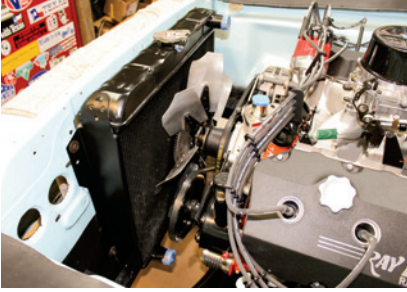
The previously mentioned white paint marks came in handy to easily line up the converter to flexplate bolts into their respective holes. Here, we also used ARP bolts (ARP-240-7302, Summit, \$10.99) to handle the Hemi's torque for no fear of fastener failure



Surprisingly, all-around clearances are better with the TTI 2 1/4-inch Hemi than the TTI 2-inch headers in my 440-powered '67 Coronet R/T. Access to wrench bolts and install accessories are better too. We coated the trans crossmember with Eastwood's 2K Ceramic Aerosol Chassis Black (PN 14146Z, Eastwood, \$24.99) and the undercarriage with Chassis Black (PN 10043ZP, Eastwood, \$34.99 quart) for a clean, cool look.



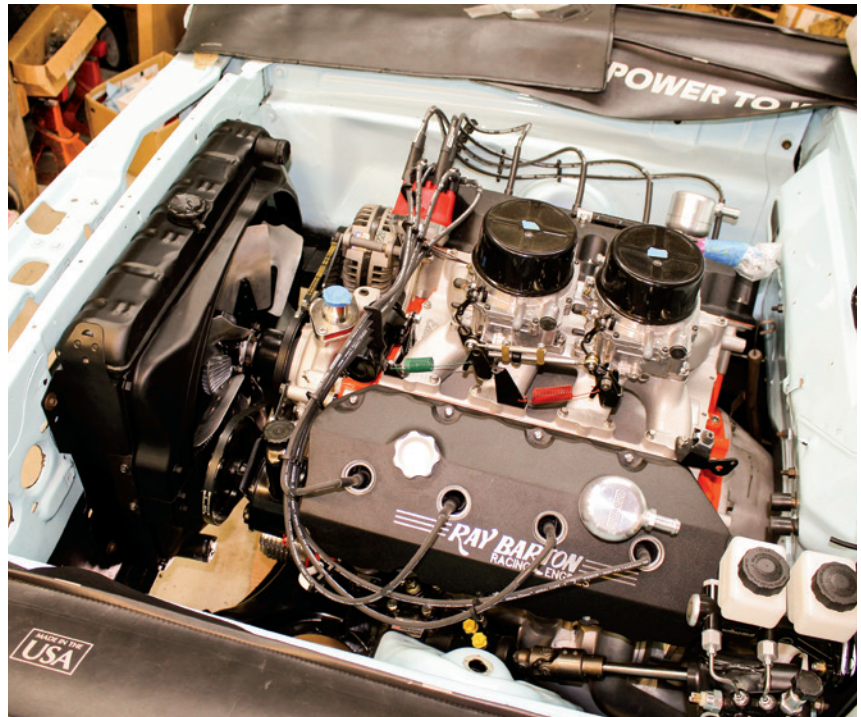
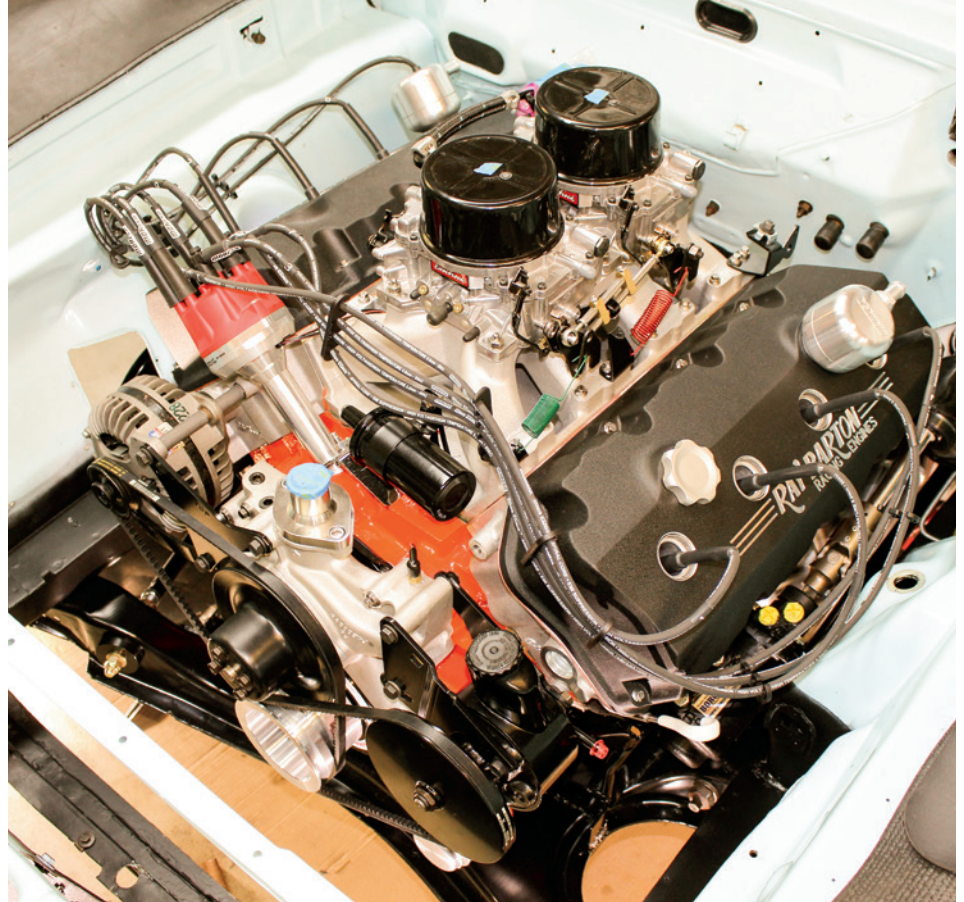
There's lots of clearance around all of the steering components and the PST 1.03-inch torsion bars we featured in a previous story, "Mopar Front Suspension Rehab: Get Handling With Stock Looks!" The prior dimpling of the number four header tube gave us a good 1/4 inch of clearance of the T-bar.



For our final clearance check we hoped an original, air conditioning, aluminum-bladed clutch fan setup ('64-'65 wedge) would fit with the thicker-than-stock, four-row U.S. Radiator. Fortunately, it fit with 5/8- to 11/16-inch clearance, but the 54-year-old clutch unit has shaft wobble. We didn't want to purchase an expensive repo fan clutch for over \$200.



We discovered Hayden makes a quality thermal clutch fan (PN HDA-2765, Summit, \$41.99) that's the same depth (2 5/8 inches) as the original unit. Here, we bolted it to the '65 aluminum-bladed fan for a cool period look. The '66-and-later fans came equipped with heavier steel blades. The lighter aluminum blades should save us a few horsepower.



We're so happy our Street Hemi is finally sitting pretty in its home. Next, we'll attend to the wiring, plumb the cooling, fuel and exhaust systems. We also have to measure for a QA1 carbon-fiber driveshaft. Then, we can fill it with fluids, bleed the Wilwood brake system, and finally fire up this bad-to-the-bone, pump-gas, 825hp Barton Street Hemi. We can't wait to hear it through the TTI 3-inch exhaust!

## SOURCES

### CLASSIC INDUSTRIES

800-854-1280  
WWW.CLASSICINDUSTRIES.COM

### EASTWOOD

800-343-4353  
WWW.EASTWOOD.COM

### MANCINI RACING

800-843-2821  
WWW.MANCINIRACING.COM

### SCHUMACHER CREATIVE SERVICES

206-364-7151  
WWW.ENGINE-SWAPS.COM

### SUMMIT RACING EQUIPMENT

800-230-3030  
WWW.SUMMITRACING.COM

### TTI EXHAUST

951-371-4878  
WWW.TTIEXHAUST.COM